ORDER NO. KM40712505CE
F22

Service Manual

Telephone Equipment

Caller ID Compatible

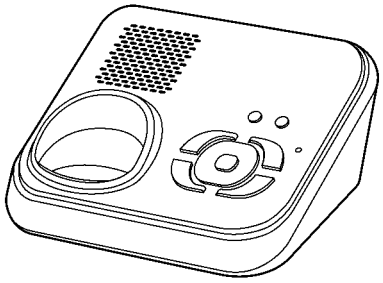
DECT 6.0

Model No. KX-TG9331T
KX-TGA931T

Expandable Digital Cordless Answering System

Titanium Black Version
(for U.S.A.)

KX-TGA931T
(Handset)



KX-TG9331T
(Base Unit)

Configuration for each model

Model No	Base Unit	Handset	Charger Unit	Expandable
KX-TG9331	1 (TG9331)	1 (TGA931)		Up to 6

* For the bundle model (KX-TG9332/9333/9334), refer to KX-TG9332/9333/9334 service manual.

Panasonic

© 2008 Panasonic Communications Co., Ltd. All rights reserved. Unauthorized copying and distribution is a violation of law.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by ⚠ in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

IMPORTANT INFORMATION ABOUT LEAD FREE, (PbF), SOLDERING

If lead free solder was used in the manufacture of this product, the printed circuit boards will be marked PbF. Standard leaded, (Pb), solder can be used as usual on boards without the PbF mark.
When this mark does appear, please read and follow the special instructions described in this manual on the use of PbF and how it might be permissible to use Pb solder during service and repair work.

- When you note the serial number, write down all 11 digits. The serial number may be found on the bottom of the unit.
- The illustrations in this Service Manual may vary slightly from the actual product.

Note for TABLE OF CONTENTS:
Because sections 4, 5 and 6 of this manual are extracts from the operating instructions for this model, they are subject to change without notice. You can download and refer to the original operating instructions on TSN Server for further information.

TABLE OF CONTENTS

PAGE

1 Safety Precautions ---- **4**
1.1. For Service Technicians ---- 4
2 Warning ---- **4**
2.1. Battery Caution ---- 4
3 Specifications ---- **5**
4 Location of Controls and Components ---- **6**
4.1. Controls ---- 6
4.2. Display ---- 6
5 Installation Instructions ---- **7**
5.1. Connections ---- 7
5.2. Battery ---- 7
6 Operating Instructions ---- **9**
6.1. Programmable Settings ---- 9
6.2. Error Messages ---- 12
6.3. Troubleshooting ---- 13
7 Schematic Diagram ---- **17**
7.1. For Schematic Diagram ---- 17
7.2. Schematic Diagram (Base Unit_Main) ---- 18
7.3. Schematic Diagram (Base Unit_RF Part) ---- 20
7.4. Schematic Diagram (Base Unit_Operation) ---- 21
7.5. Schematic Diagram (Handset_Main) ---- 22
7.6. Schematic Diagram (Handset_RF Part) ---- 24
8 Exploded View and Replacement Parts List ---- **25**

1 Safety Precautions

1.1. For Service Technicians

- **Repair service shall be provided in accordance with repair technology information such as service manual so as to prevent fires, injury or electric shock, which can be caused by improper repair work**.
  1. When repair services are provided, neither the products nor their parts or members shall be remodeled.
  2. If a lead wire assembly is supplied as a repair part, the lead wire assembly shall be replaced.
  3. FASTON terminals shall be plugged straight in and unplugged straight out.

- **ICs and LSIs are vulnerable to static electricity.**
  When repairing, the following precautions will help prevent recurring malfunctions.
  1. Cover plastic parts boxes with aluminum foil.
  2. Ground the soldering irons.
  3. Use a conductive mat on worktable.
  4. Do not grasp IC or LSI pins with bare fingers.

2 Warning

2.1. Battery Caution

1. Danger of explosion if battery is incorrectly replaced.
2. Replace only with the same or equivalent type recommended by the manufacturer.
3. Dispose of used batteries according to the manufacturer's Instructions.

3 Specifications

■ **Standard:**
DECT 6.0 (Digital Enhanced Cordless Telecommunications 6.0)

■ **Number of channels:**
60 Duplex Channels

■ **Frequency range:**
1.92 GHz to 1.93 GHz

■ **Duplex procedure:**
TDMA (Time Division Multiple Access)

■ **Channel spacing:**
1,728 kHz

■ **Bit rate:**
1,152 kbit/s

■ **Modulation:**
GFSK (Gaussian Frequency Shift Keying)

■ **RF transmission power:**
115 mW (Max.)

■ **Voice coding:**
ADPCM 32 kbit/s

	Base Unit	Handset
Power source	AC Adaptor (PQLV207T, 120 V AC, 60 Hz)	Rechargeable Ni-MH battery AAA (R03) size (1.2 V 630 mAh)
Receiving Method	Super Heterodyne	Super Heterodyne
Oscillation Method	PLL synthesizer	PLL synthesizer
Detecting Method	Quadrature Discriminator	Quadrature Discriminator
Tolerance of OSC Frequency	13.824 MHz ±100 Hz	13.824 MHz ±100 Hz
Modulation Method	Frequency Modulation	Frequency Modulation
ID Code	40 bit	40 bit
Ringer Equivalence No. (REN)	0.1B	—
Dialing Mode	—	Tone (DTMF)/Pulse
Redial	—	Up to 48 digits
Speed Dialer	—	Up to 32 digits (Phonebook)
Power Consumption	Standby: Approx. 0.9 W Maximum: Approx. 3.4 W	11 days at Standby, 5 hours at Talk
Operating Conditions	5 °C - 40 °C (41 °F – 104 °F) 20 % – 80 % relative air humidity (dry)	5 °C - 40 °C (41 °F – 104 °F) 20 % – 80 % relative air humidity (dry)
Dimensions (H x W x D)	Approx. 63 mm × 140 mm × 119 mm ($2\ ^{15}/_{32}$" × $5\ ^{1}/_{2}$" × $4\ ^{11}/_{16}$")	Approx. 156 mm × 49 mm × 32 mm ($6\ ^{1}/_{8}$" × $1\ ^{15}/_{16}$" × $1\ ^{1}/_{4}$")
Mass (Weight)	Approx. 220 g (0.49 lb.)	Approx. 130 g (0.29 lb.)

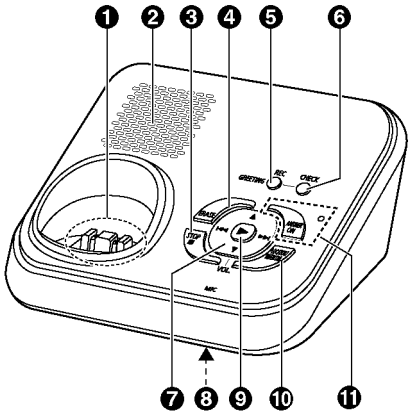
Note:
• Design and specifications are subject to change without notice.

Note for Service:
• **Optional headset:** KX-TCA60, KX-TCA86, KX-TCA92, KX-TCA93, KX-TCA94, KX-TCA95

4 Location of Controls and Components

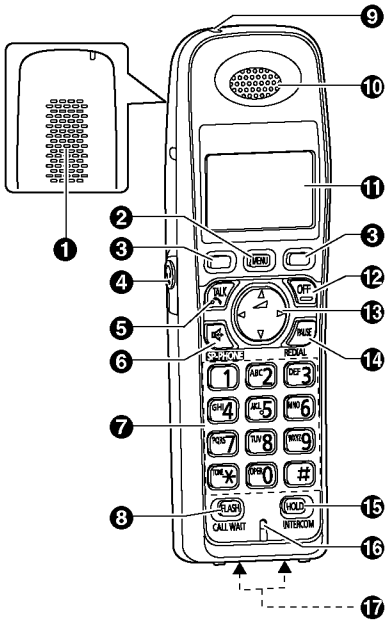
4.1. Controls

4.1.1. Base Unit



❶ Charge contacts
❷ Speaker
❸ 【■】(STOP)
❹ 【ERASE】
❺ 【GREETING REC】(Recording)
❻ 【GREETING CHECK】
❼ 【▲】(VOL.: Volume up)
【▼】(VOL.: Volume down)
【⏮】(Repeat)
【⏭】(Skip)
❽ MIC (Microphone)
❾ 【►】(Play)
Message indicator
❿ 【LOCATOR】【INTERCOM】
⓫ 【ANSWER ON】
ANSWER ON indicator

4.1.2. Handset



❶ Speaker
❷ 【MENU】
❸ Soft keys
❹ Headset jack
❺ 【 】(TALK)
❻ 【 】(SP-PHONE: Speakerphone)
❼ Dial keypad
(【✳】: TONE)
❽ 【FLASH】【CALL WAIT】
❾ Charge indicator
Ringer indicator
Message indicator
❿ Receiver
⓫ Display
⓬ 【OFF】
⓭ Navigator key (【▲】/【▼】/【◄】/【►】)
◿ (Volume: 【▲】/【▼】)
⓮ 【PAUSE】【REDIAL】
⓯ 【HOLD】【INTERCOM】
⓰ Microphone
⓱ Charge contacts

4.2. Display

Handset display items

Item	Meaning
[▮▮▮]	Battery level
[1]	Handset number
Line in use	Someone is using the line.

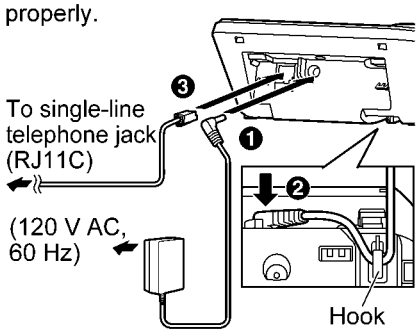
5 Installation Instructions

5.1. Connections

Connect the AC adaptor cord (❶) by pressing the plug firmly (❷). Connect the telephone line cord until it clicks into the base unit and telephone line jack (❸).

Base unit

- Use only the supplied Panasonic AC adaptor PQLV207T.
- Use only the supplied telephone line cord. Using another telephone line cord may not allow the unit to work properly.



Note:

- The AC adaptor must remain connected at all times. (It is normal for the adaptor to feel warm during use.)
- The AC adaptor should be connected to a vertically oriented or floor-mounted AC outlet. Do not connect the AC adaptor to a ceiling-mounted AC outlet, as the weight of the adaptor may cause it to become disconnected.

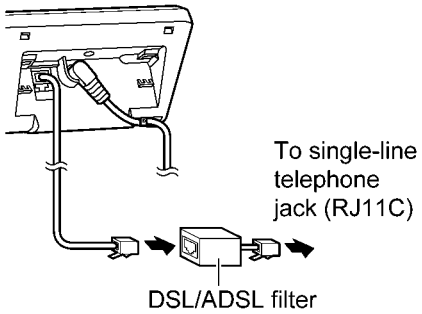
During a power failure

The unit will not work during a power failure. We recommend connecting a corded-type telephone (without AC adaptor) to the same telephone line or to the same telephone line jack using a Panasonic T-adaptor. Emergency power can be supplied to the unit by connecting a Panasonic battery back-up power supply.

If you subscribe to a DSL/ADSL service

Please attach a DSL/ADSL filter (contact your DSL/ADSL provider) to the telephone line between the base unit and the telephone line jack in the event of the following:

– noise is heard during conversations.
– Caller ID features do not function properly.



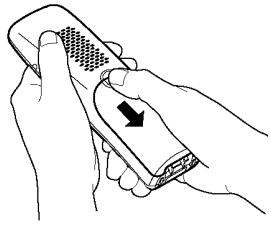
5.2. Battery

5.2.1. Battery Installation and Replacement

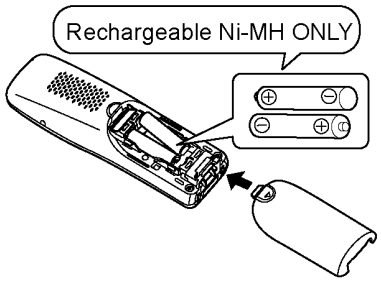
Important:

- Use the supplied rechargeable batteries (Part No. HHR-65AAABU).
- When installing the batteries:
  – Wipe the battery ends (⊕, ⊖) with a dry cloth.
  – Avoid touching the battery ends (⊕, ⊖) or the unit contacts.
  – Ensure correct polarities (⊕, ⊖).
- When replacing the batteries:
  – USE ONLY rechargeable Ni-MH batteries AAA (R03) size.
  – Do NOT use Alkaline/Manganese/Ni-Cd batteries.
  – We recommend using the Panasonic rechargeable batteries HHR-4DPA.

1 Press the notch on the handset cover firmly, and slide it in the direction of the arrow.

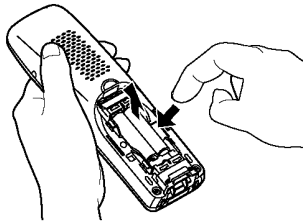


2 Insert the batteries negative (⊖) end first. Close the handset cover.



Note:

- When replacing batteries, remove the old batteries.



Attention:

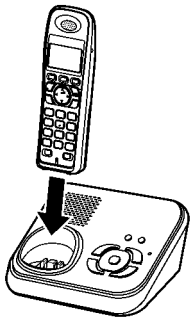
Anickel metal hydride battery that is recyclable powers the product you have purchased.
Please call 1-800-8-BATTERY (1-800-822-8837) for information on how to recycle this battery.

5.2.2. Battery Charge

Place the handset on the base unit for about 7 hours before initial use.

- While charging, "`Charging`" is displayed and the charge indicator on the handset lights up. When the batteries are fully charged, "`Charge completed`" is displayed.

Base unit:



Note:

- It is normal for the handset to feel warm during charging.
- If you want to use the handset immediately, charge the batteries for at least 15 minutes.
- Clean the charge contacts of the handset and base unit with a soft and dry cloth. Clean if the unit is exposed to grease, dust, or high humidity.

Note for service:

The battery strength may not be indicated correctly if the battery is disconnected and connected again, even after it is fully charged. In that case, by recharging the battery as mentioned above, you will get a correct indication of the battery strength.

5.2.3. Battery Level

Battery icon	Battery level
	High
	Medium
	Low ● When flashing: Needs to be charged.
	Empty

Note:

- The batteries need to be charged if:
  - the handset alerts you with a voice announcement **(talking battery alert)** after you finish talking/listening to a message.
  - the handset beeps while you are engaged in a call or operating the answering system remotely.

5.2.4. Panasonic Ni-MH Battery Performance (supplied batteries)

Operation	Operating time
In continuous use	5 hours max.
Not in use (standby)	11 days max.
While using the clarity booster featur	3 hours max.

Note:

- Actual battery performance depends on a combination of how often the handset is in use and how often it is not in use (standby).
- Even after the handset is fully charged, the handset can be left on the base unit without any ill effect on the batteries.
- The battery level may not be displayed correctly after you replace the batteries. In this case, place the handset on the base unit and let it charge for at least 7 hours.

6 Operating Instructions

6.1. Programmable Settings

You can customize the unit by programming the following features using the handset.
To access the features, there are 2 methods:
– scrolling through the display menus
– using the direct commands

- Mainly the direct command method is used in this service manual.

6.1.1. Programming by Scrolling through the Display Menus

1 【MENU】

2 Press 【▼】 or 【▲】 to select the desired main menu. → 【Select】

3 Press 【▼】 or 【▲】 to select the desired item in sub-menu 1. → 【Select】
- In some cases, you may need to select from sub-menu 2. → 【Select】

4 Press 【▼】 or 【▲】 to select the desired setting. → 【Save】
- This step may vary depending on the feature being programmed.
- To exit the operation, press 【OFF】.

Main menu	Sub-menu 1	Sub-menu 2
Message play	–	–
V.M. access	–	–
Block calls*1	–	–
Night mode	On/Off	–
	Start/End	–
Ringer setting	Ringer volume	–
	Ringer tone	–
Set date & time	Date and time*1	–
	Alarm	–
	Time adjustment*1	–
Talking CallerID	–	–
Customer support	–	–
Initial setting	Set answering	Ring count*1
		Recording time*1
		Remote code*1
	Voice Mail	Store VM access#*1
		VM tone detect*1
	Message alert	–
	LCD contrast	–
	Key tone	–
	Auto talk	–
	Caller ID edit*1	–
	Set tel line	Set dial mode*1
		Set flash time*1
		Set line mode*1
	Set base unit	Talking CallerID*1
	Registration	HS registration
		Deregistration
	Change language	Display
		Voice prompt*1

*1 If you program these settings using one of the handsets, you do not need to program the same item using another handset.

6.1.2. Programming using the Direct Commands

1 【MENU】→【#】

2 Enter the desired feature code.

3 Enter the desired setting code. →【Save】

- This step may vary depending on the feature being programmed.
- To exit the operation, press 【OFF】.

Note:

- In the following table, < > indicates the default settings.

Feature	Feature code	Setting code	System setting*1
Alarm	【7】【2】【0】	【1】: Once 【2】: Daily 【0】: <Off>	–
Auto talk*2	【2】【0】【0】	【1】: On 【0】: <Off>	–
Block calls	【2】【1】【7】	–	●
Caller ID edit (Caller ID number auto edit)	【2】【1】【4】	【1】: <On> 【0】: Off	●
Customer support	【6】【8】【0】	–	–
Date and time	【1】【0】【1】	–	●
Deregistration	【1】【3】【1】	–	–
Display (Change language)	【1】【1】【0】	【1】: <English> 【2】: Español	–
HS registration (Handset registration)	【1】【3】【0】	–	–
Key tone*3	【1】【6】【5】	【1】: <On> 【0】: Off	–
LCD contrast (Display contrast)	【1】【4】【5】	【1】–【6】: Level 1–6 <3>	–
Message alert	【3】【4】【0】	【1】: <On> 【0】: Off	–
Message play	【3】【0】【0】	–	–
Night mode (On/Off)	【2】【3】【8】	【1】: On 【0】: <Off>	–
Night mode (Start/End)	【2】【3】【7】	<11:00 PM/06:00 AM>	–
Recording time	【3】【0】【5】	【1】: 1min 【2】: 2min 【3】: <3min> 【0】: Greeting only	●
Remote code	【3】【0】【6】	<111>	●

Feature	Feature code	Setting code	System setting*1
Ring count	**【2】【1】【1】**	**【2】–【7】**: 2–7 rings <**4**> **【0】**: **Toll saver**	●
Ringer tone*4, *5 (Handset)	**【1】【6】【1】**	**【1】–【3】**: **Tone** <**1**>–**3** **【4】–【7】**: **Melody 1–4**	–
Ringer volume (Handset)	**【1】【6】【0】**	**【1】**: Low **【2】**: Medium **【3】**: <High> **【0】**: Off	–
Set dial mode	**【1】【2】【0】**	**【1】**: **Pulse** **【2】**: <**Tone**>	●
Set flash time*6	**【1】【2】【1】**	**【1】**: <**700ms**> **【2】**: **600ms** **【3】**: **400ms** **【4】**: **300ms** **【5】**: **250ms** **【6】**: **110ms** **【7】**: **100ms** **【8】**: **90ms**	●
Set line mode*7	**【1】【2】【2】**	**【1】**: **A** **【2】**: <**B**>	●
Store VM access#	**【3】【3】【1】**	–	●
Talking CallerID (Handset)	**【1】【6】【2】**	**【1】**: <**On**> **【0】**: **Off**	–
Talking CallerID (Base unit)	**【✳】【1】【6】【2】**	**【1】**: <**On**> **【0】**: **Off**	●
Time adjustment*8 (Caller ID subscribers only)	**【2】【2】【6】**	**【1】**: <**Caller ID [auto]**> **【0】**: **Manual**	●
V.M. access	**【3】【3】【0】**	–	–
VM tone detect	**【3】【3】【2】**	**【1】**: <**On**> **【0】**: **Off**	●
Voice prompt (Change language)	**【1】【1】【2】**	**【1】**: <**English**> **【2】**: **Español**	●

*1 If "System setting" column is checked, you do not need to program the same item using another handset.

*2 If you subscribe to Caller ID service and want to view the caller's information after lifting up the handset to answer a call, turn off this feature.

*3 Turn this feature off if you prefer not to hear key tones while you are dialing or pressing any keys, including confirmation tones and error tones.

*4 If you subscribe to a distinctive ring service (such as IDENTA-RING), select a tone (tone 1 to 3). If you select a melody, you cannot distinguish lines by their ringers.

*5 If you select one of the melody ringer tones, the ringer tone will continue to play for several seconds even if the caller has already hung up. You may either hear a dial tone or no one on the line when you answer the call.

*6 The flash time depends on your telephone exchange or host PBX. Contact your PBX supplier if necessary. The setting should stay at **"700ms"** unless pressing **【FLASH】** fails to pick up the waiting call.

*7 Generally, the line mode setting should not be adjusted. If **"Line in use"** is not displayed when another phone connected to the same line is in use, you need to change the line mode to **"A"**.

*8 This feature allows the unit to automatically adjust the date and time setting when caller information is received. To use this feature, set the date and time first.

6.2. Error Messages

If the unit detects a problem, one of the following messages is shown on the display.

Display message	Cause/solution

`Busy`
 	
or
 	
`System is busy. Please try again later.`
	• The called handset or base unit is in use.
	• Other units are in use and the system is busy. Try again later.
	• The handset you are using is too far from the base unit. Move closer and try again.
	• The handset's registration may have been canceled. Re-register the handset.

`Check tel line`	• The supplied telephone line cord has not been connected yet or not connected properly. Check the connections.
`Don't use this battery.`	• A wrong type of batteries such as Alkaline or Manganese was inserted. Use only the rechargeable Ni-MH batteries.
`Error!!`	• The handset's registration has failed. Move the handset and base unit away from all electrical appliances and try again.
`Insert battery`	• The handset was placed on the base unit without batteries. Insert the batteries properly.
`Invalid`	• There is no handset registered to the base unit matching the handset number you entered. • The handset is not registered to the base unit. Register the handset.
`No link to base. Reconnect AC adaptor.`	• The handset has lost communication with the base unit. Move closer to the base unit and try again. • Unplug the base unit's AC adaptor to reset the unit. Reconnect the adaptor and try again. • The handset's registration may have been canceled. Re-register the handset.
`Phonebook full`	• The phonebook memory is full. Erase unnecessary entries.
`Store VM access#`	• You have not stored the voice mail access number. Store the number.

6.3. Troubleshooting

If you still have difficulties after following the instructions in this section, disconnect the base unit's AC adaptor, then reconnect the base unit's AC adaptor. Remove the batteries from the handset, and then insert the batteries into the handset again.

General use

Problem	Cause/solution
The unit does not work.	● Make sure the batteries are installed correctly. ● Fully charge the batteries. ● Check the connections. ● Unplug the base unit's AC adaptor to reset the unit. Reconnect the adaptor and try again. ● The handset has not been registered to the base unit. Register the handset.
I cannot hear a dial tone.	● The base unit's AC adaptor or telephone line cord is not connected. Check the connections. ● If you are using a splitter to connect the unit, remove the splitter and connect the unit to the wall jack directly. If the unit operates properly, check the splitter. ● Disconnect the base unit from the telephone line and connect the line to a known working telephone. If the working telephone operates properly, contact our service personnel to have the unit repaired. If the working telephone does not operate properly, contact your service provider/telephone company.
The indicator on the handset flashes slowly.	● New messages have been recorded. Listen to the new messages. ● New voice mail messages have been recorded. Listen to the new voice mail messages.

Programmable settings

Problem	Cause/solution
I have changed the display language to a language I cannot read.	● Change the display language.
While programming, the handset starts to ring.	● A call is being received. Answer the call and start again after hanging up.
I cannot register a handset to a base unit.	● The maximum number of handsets (6) is already registered to the base unit. Cancel unused handset registrations from the base unit. ● Place the handset and the base unit away from other electrical appliances.

Battery recharge

Problem	Cause/solution
The handset beeps and/or [battery] flashes.	● Battery charge is low. Fully charge the batteries.
I fully charged the batteries, but [battery] still flashes or [battery] is displayed.	● Clean the charge contacts and charge again. ● It is time to replace the batteries.
I fully charged the batteries, but the operating time seems to be shorter.	● Clean the battery ends (⊕, ⊖) and the charge contacts with a dry cloth, and charge again.

Making/answering calls, intercom

Problem	Cause/solution
Noise is heard, sound cuts in and out.	● You are using the handset or base unit in an area with high electrical interference. Place the base unit and use the handset away from sources of interference. ● Move closer to the base unit. ● If you use a DSL/ADSL service, we recommend connecting a DSL/ADSL filter between the base unit and the telephone line jack. Contact your DSL/ADSL provider for details.
The handset and/or base unit does not ring.	● The ringer volume is turned off. Adjust the ringer volume. ● Night mode is turned on. Turn it off.
I cannot make a call.	● The dialing mode may be set incorrectly. Change the setting. ● The handset is too far from the base unit. Move closer and try again.
I cannot make long distance calls.	● Make sure that you have long distance service.

Caller ID/Talking Caller ID

Problem	Cause/solution
Caller information is not displayed.	● You need to subscribe to Caller ID service. Contact your service provider/telephone company for details. ● If your unit is connected to any additional telephone equipment such as a Caller ID box or cordless telephone line jack, plug the unit directly into the wall jack. ● If you use a DSL/ADSL service, we recommend connecting a DSL/ADSL filter between the base unit and the telephone line jack. Contact your DSL/ADSL provider for details. ● The name display service may not be available in some areas. Contact your service provider/telephone company for details. ● Other telephone equipment may be interfering with this unit. Disconnect the other equipment and try again.
Caller information is displayed or announced late.	● Depending on your service provider/telephone company, the unit may display or announce the caller's information at 2nd ring or later. ● Move closer to the base unit.
Caller information is not announced.	● The handset or base unit's ringer volume is turned off. Adjust it. ● The Talking Caller ID feature is turned off. Turn it on. ● The number of rings for the answering system is set to **"2"** or **"Toll saver"**. Select a different setting. ● If the base unit and another handset are having an intercom call, your handset does not announce caller information.
The caller list/incoming phone numbers are not edited automatically.	● The Caller ID number auto edit feature is turned off. Turn it on and try again. ● You need to call back the edited number to activate Caller ID number auto edit.
I cannot dial the phone number edited in the caller list.	● The phone number you dialed might have been edited incorrectly (for example, the long distance "1" or the area code is missing). Edit the phone number with another pattern.
Time on the unit is shifted.	● Incorrect time information from incoming Caller ID changes the time. Set the time adjustment to off.
The 2nd caller's information is not displayed during an outside call.	● In order to use Caller ID, call waiting, or Call Waiting Caller ID (CWID), you must first contact your service provider/telephone company and subscribe to the desired service. After subscribing, you may need to contact your service provider/telephone company again to activate this specific service, even if you already subscribed to both Caller ID and Call Waiting with Caller ID services (CWID).

Answering system

Problem	Cause/solution
The unit does not record new messages.	● The answering system is turned off. Turn it on. ● The message memory is full. Erase unnecessary messages. ● The recording time is set to **"Greeting only"**. Change the setting. ● If you subscribe to the voice mail service, messages are recorded by your service provider/telephone company not your telephone. Change the unit's number of rings setting or contact your service provider/telephone company.
I cannot operate the answering system.	● Someone is using the unit. Wait for the other user to finish. ● A caller is leaving a message. Wait for the caller to finish. ● The handset is too far from the base unit. Move closer.
I cannot operate the answering system remotely.	● You are entering the wrong remote access code. If you forgot the remote access code, store a new remote access code. ● Press each key firmly. ● The answering system is turned off. Turn it on. ● You are using a rotary/pulse telephone. Try again using a touch-tone phone.
While recording a greeting message or listening to messages, the unit rings and recording stops.	● A call is being received. Answer the call and try again later.

Liquid damage

Problem	Cause/solution
Liquid or other form of moisture has entered the handset/base unit.	● Disconnect the AC adaptor and telephone line cord from the base unit. Remove the batteries from the handset and leave to dry for at least 3 days. After the handset/base unit are completely dry, reconnect the AC adaptor and telephone line cord. Insert the batteries and charge fully before use.

Caution:

- To avoid permanent damage, do not use a microwave oven to speed up the drying process.

7 Schematic Diagram

7.1. For Schematic Diagram

7.1.1. Base Unit (Schematic Diagram (Base Unit_Main))

7.1.1.1. Acoustic Testing Mode

Press “STOP”, “ ▶▶ ” and “ ► ” simultaneously, and insert the plug of AC adaptor.
● No beep sound.
It is easier to measure the transmit level with acoustic testing mode.

Notes:

1. DC voltage measurements are taken with voltmeter from the negative voltage line.

Important Safety Notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only the manufacturer's specified parts.

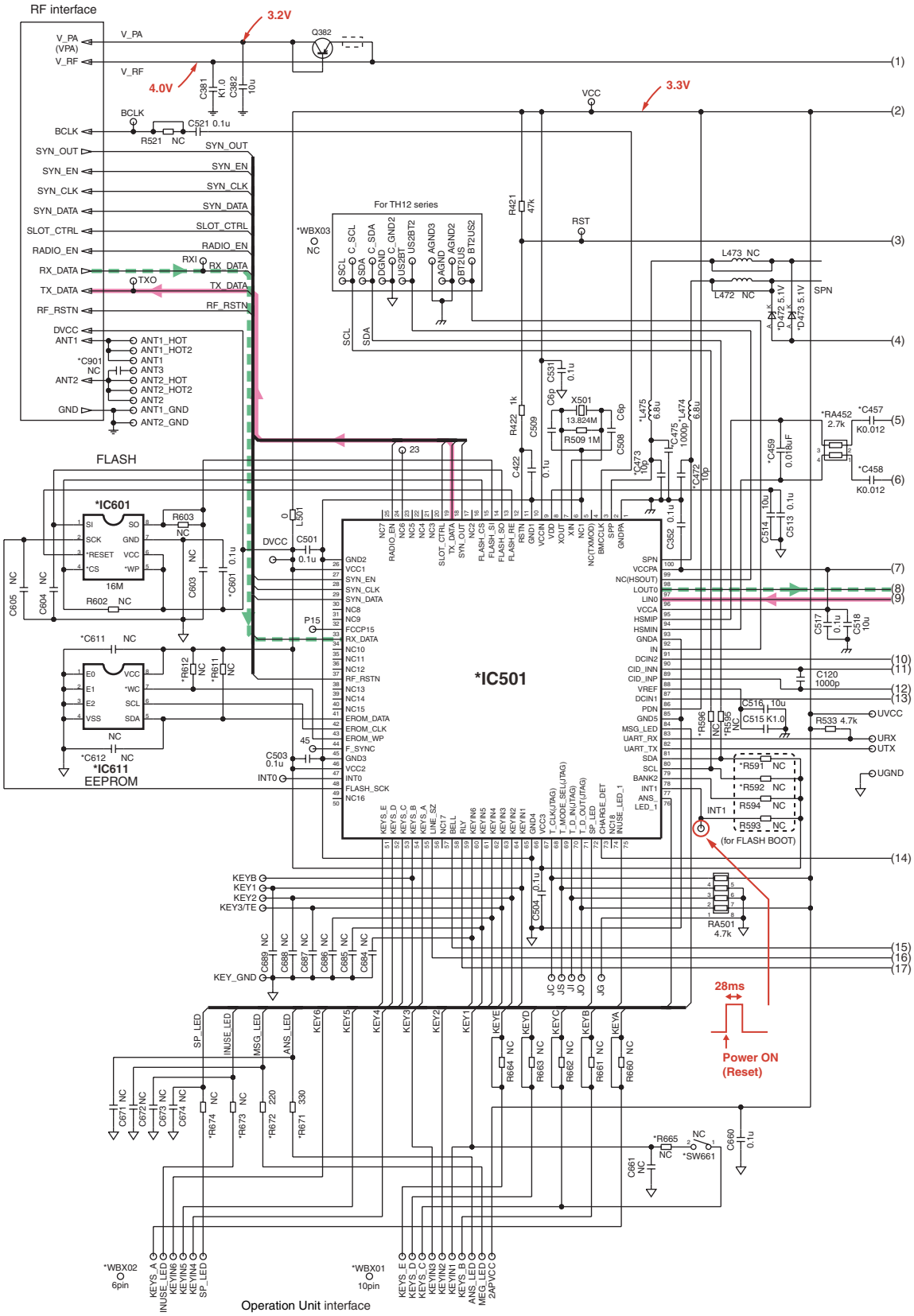
2. The schematic diagrams may be modified at any time with the development of new technology.

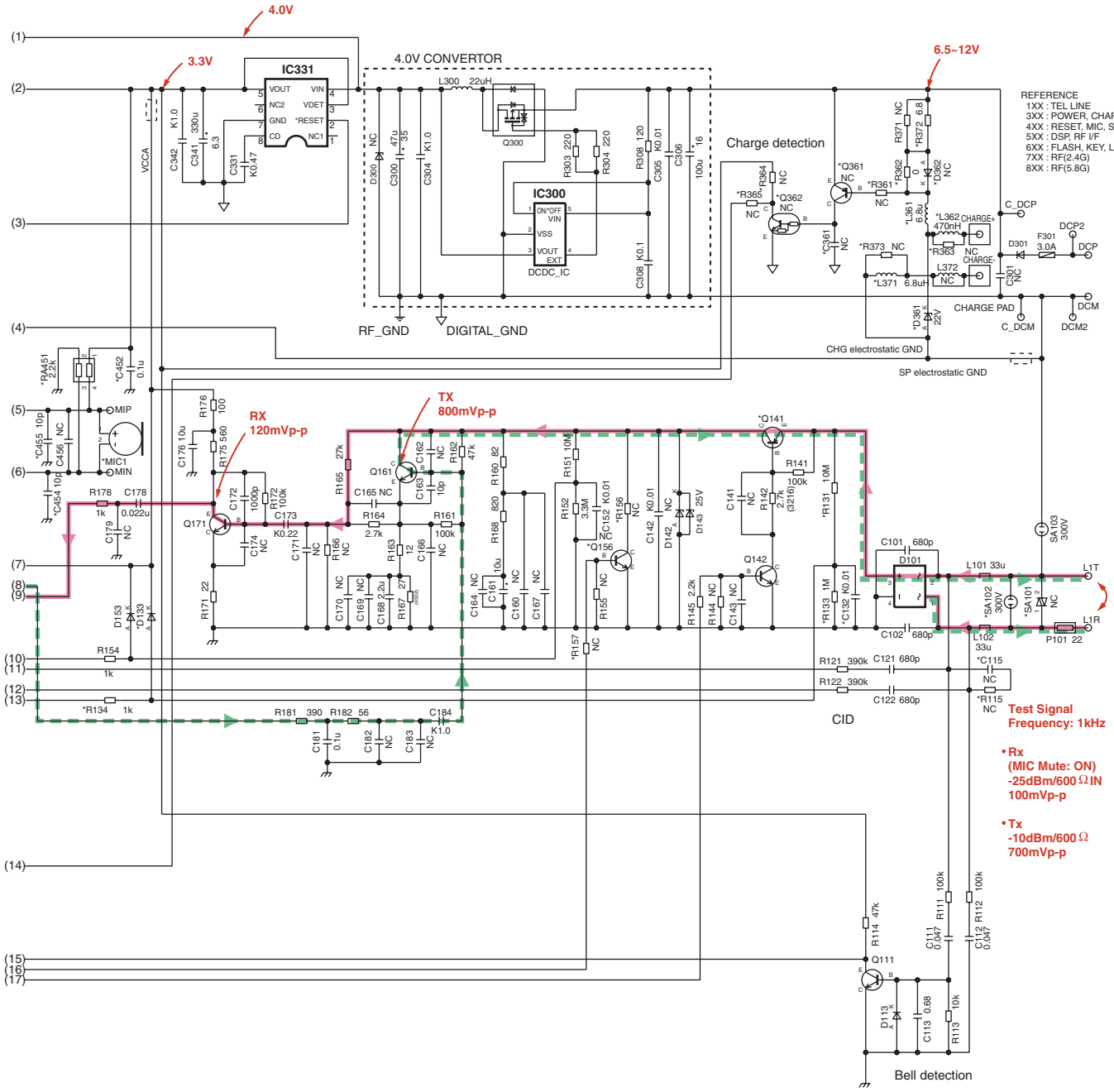
7.1.2. Handset (Schematic Diagram (Handset_Main))

Notes:

1. DC voltage measurements are taken with an oscilloscope or a tester with a ground.
2. The schematic diagrams may be modified at any time with the development of new technology.

7.2. Schematic Diagram (Base Unit_Main)

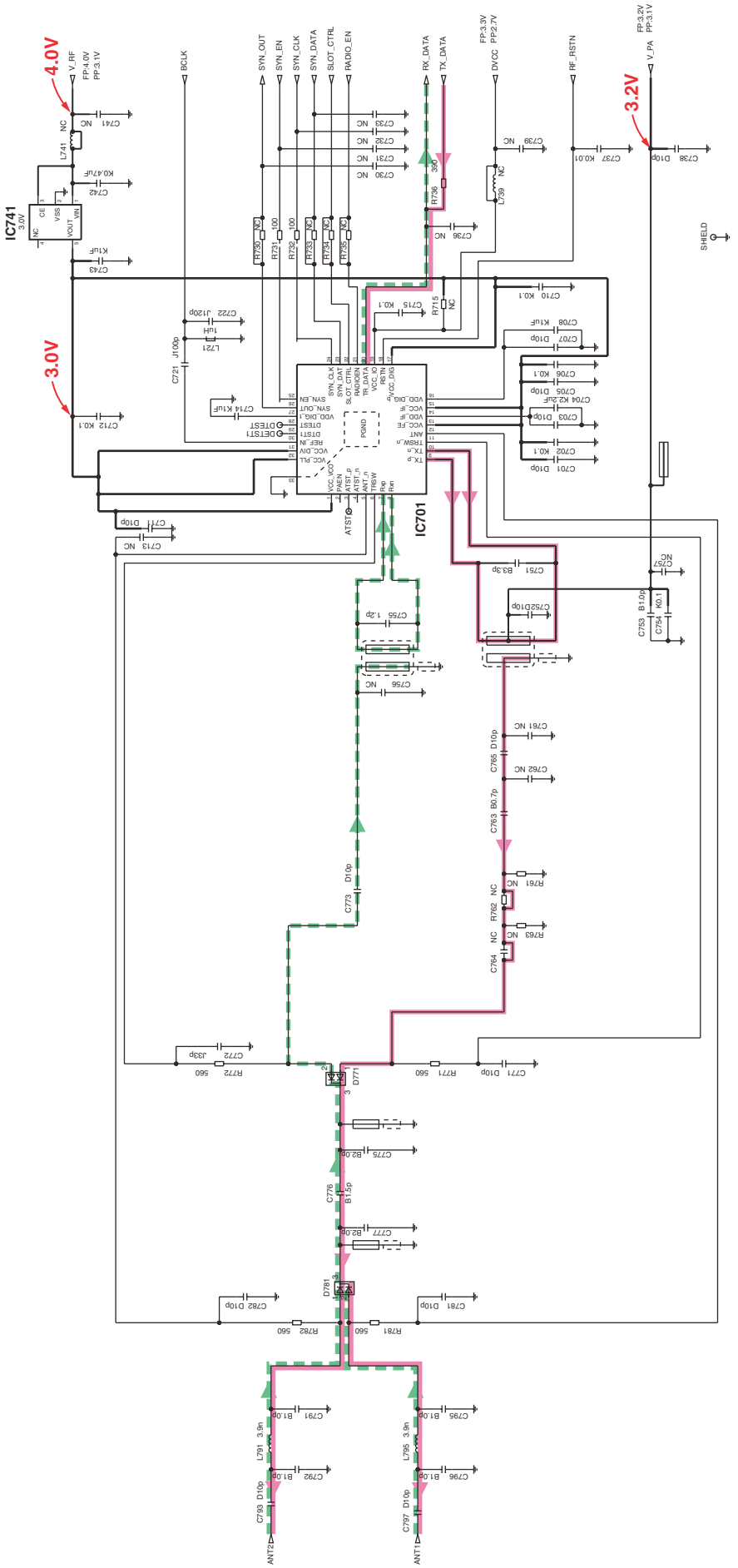




NC: No Components

KX-TG9332/9333/9334 SCHEMATIC DIAGRAM (Base Unit_Main)

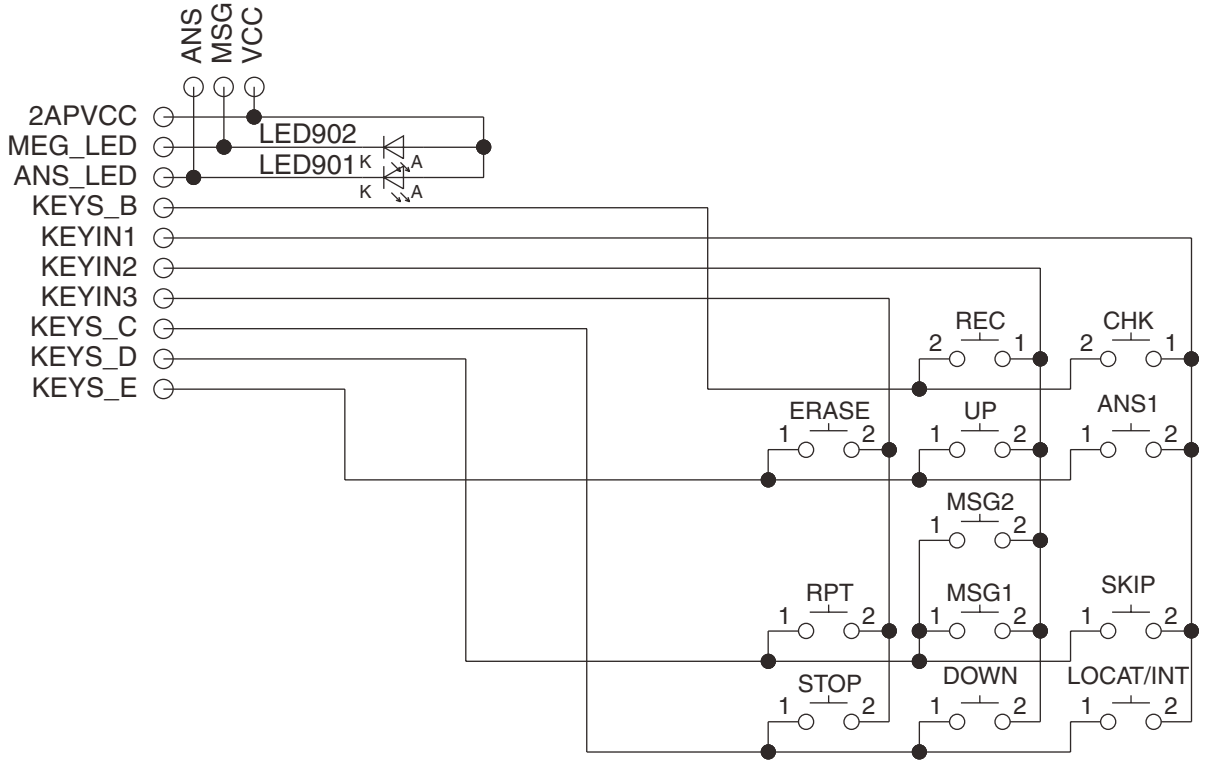
7.3. Schematic Diagram (Base Unit_RF Part)



NC: No Components

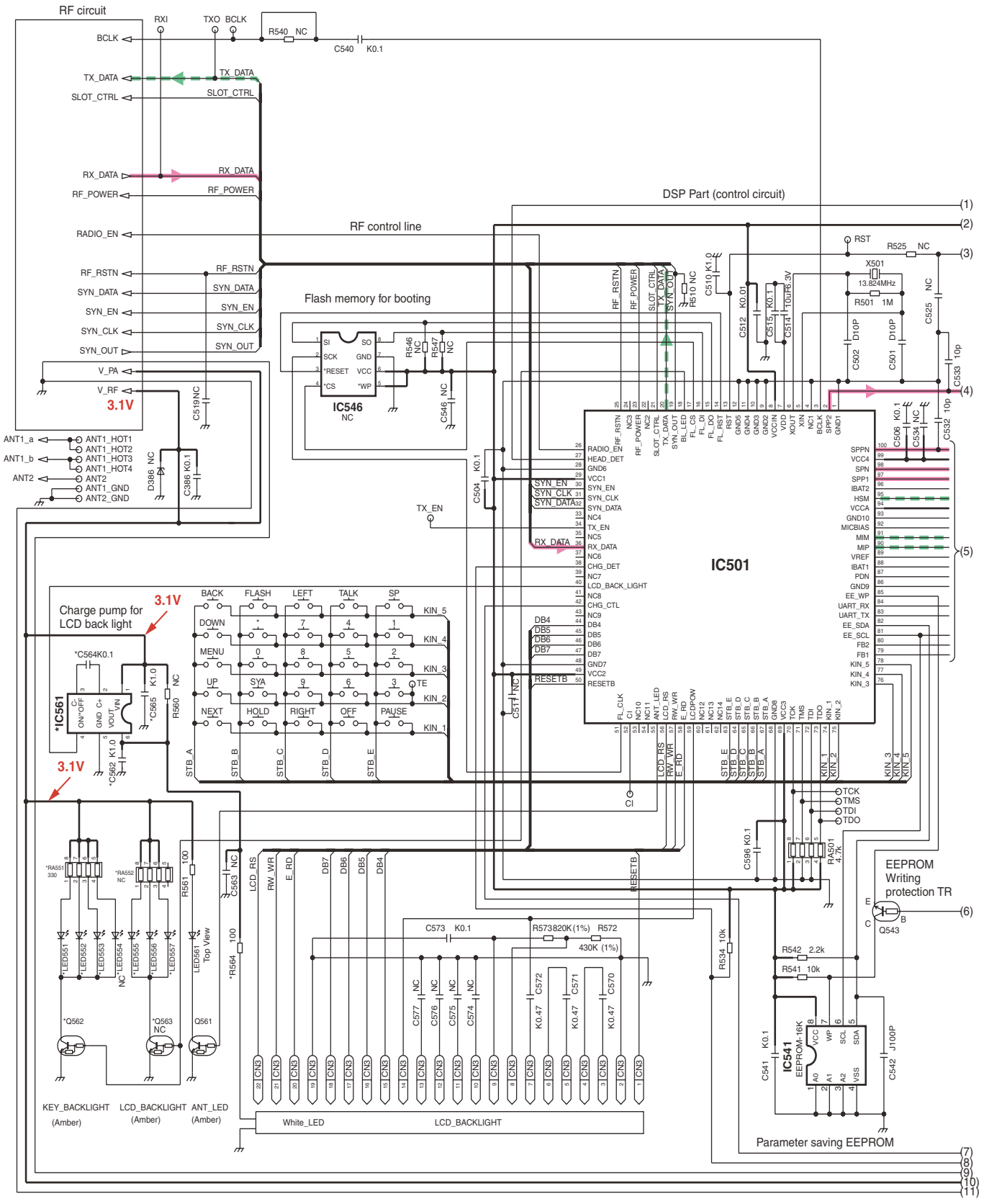
KX-TG9331 SCHEMATIC DIAGRAM (Base Unit_RF Part)

7.4. Schematic Diagram (Base Unit_Operation)

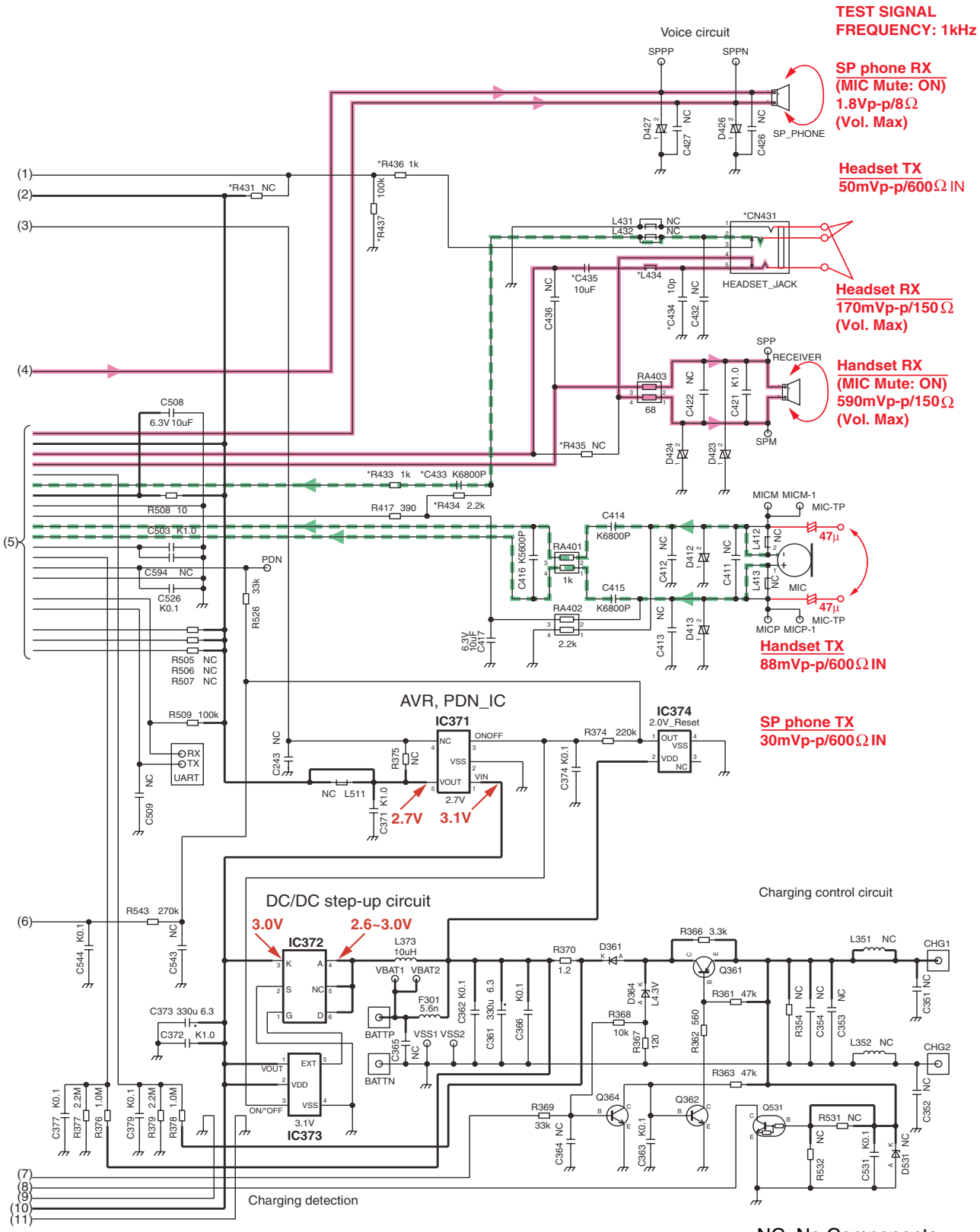


KX-TG9331 SCHEMATIC DIAGRAM (Base Unit_Operation)

7.5. Schematic Diagram (Handset_Main)



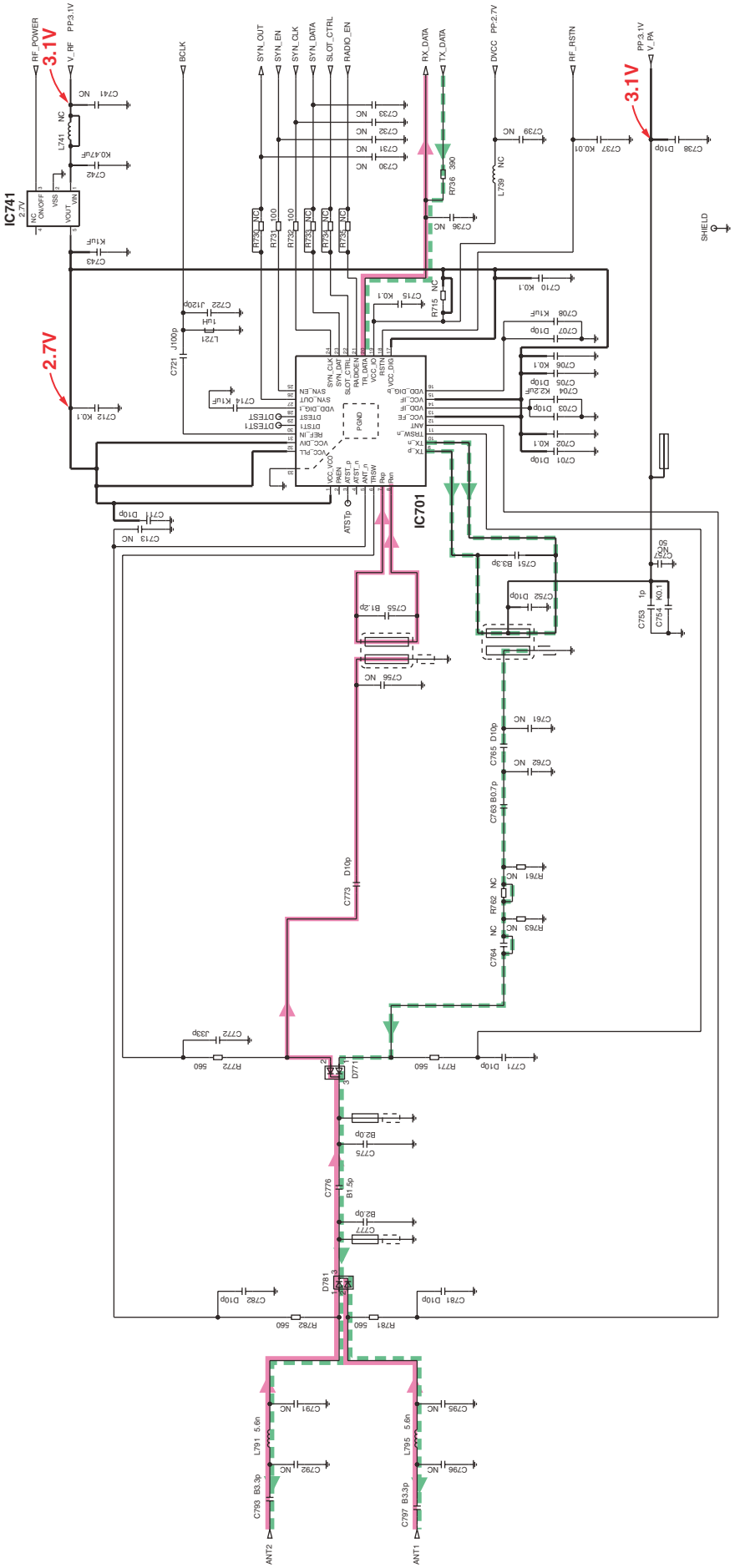
NC: No Components



NC: No Components

KX-TGA931 SCHEMATIC DIAGRAM (Handset_Main)

7.6. Schematic Diagram (Handset_RF Part)



NC: No Components

KX-TGA931 SCHEMATIC DIAGRAM (Handset_RF Part)

8 Exploded View and Replacement Parts List

1. RTL (Retention Time Limited)

   Note:

   The “RTL” marking indicates that its Retention Time is Limited.

   When production is discontinued, this item will continue to be available only for a specific period of time.

   This period of time depends on the type of item, and the local laws governing parts and product retention. At the end of this period, the item will no longer be available.

2. Important safety notice

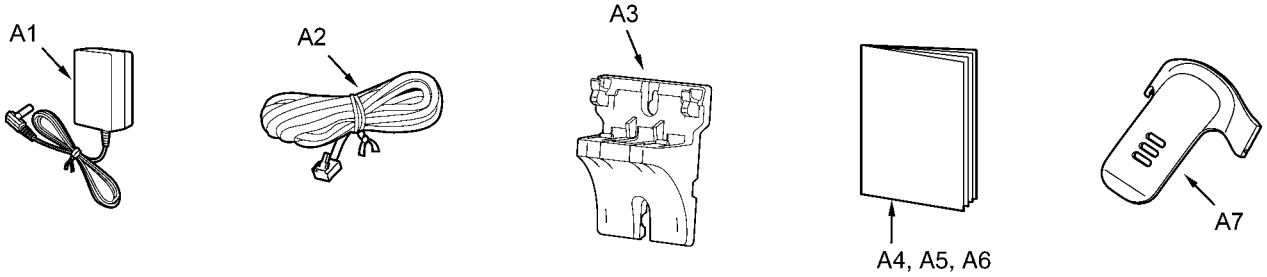
   Components identified by the ⚠ mark indicates special characteristics important for safety. When replacing any of these components, only use specified manufacture’s parts.

3. ISO code (Example: ABS-94HB) of the remarks column shows quality of the material and a flame resisting grade about plastics.

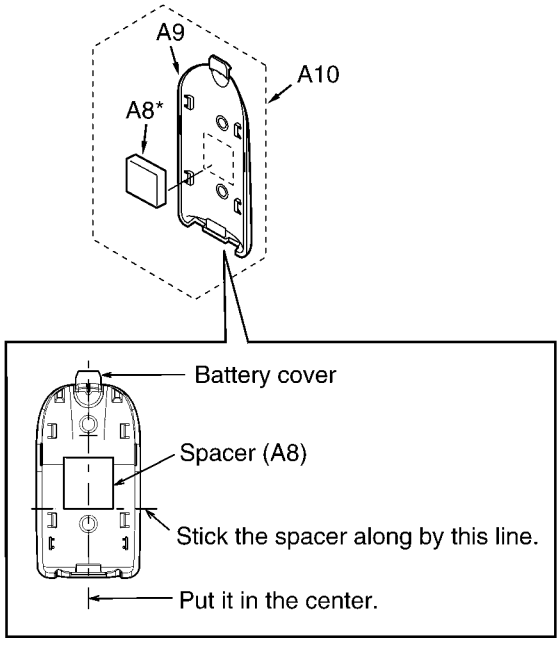
Note:

(*1) You can download and refer to the Operating Instructions (Instruction book) on TSN Server.

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
⚠	A1	PQLV207T	AC ADAPTOR	
	A2	PQJA10075Z	CORD, TELEPHONE	
	A3	PNKL1001Z1	STAND, WALL MOUNT	PS-HB
	A4	PNQX1005X	INSTRUCTION BOOK (*1)	
	A5	PNQW1005Z	LEAFLET, QUICK GUIDE (for English)	
	A6	PNQW1006Z	LEAFLET, QUICK GUIDE (for Spanish)	
	A7	PNKE1004Z1	HANGER, BELT CLIP	ABS-HB
	A8	PQHS10792Z	SPACER, BATTERY	
	A9	PNKK1001Z2	LID, BATTERY COVER	ABS-HB
	A10	PNYNTGA430BR	LID, BATTERY COVER ASS'Y	ABS-HB



* Attach the SPACER (A8) to the exact location described below.



G/N
KXTG9331T
KXTGA931T